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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/736,019

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Gary Lynn Hanley

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EXAMINER

OMGBA, ESSAMA

ART UNIT

PAPER NUMBER

3726

NOTIFICATION DATE

DELIVERY MODE

04/01/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/736,019	Applicant(s) HANLEY, GARY LYNN	
	Examiner Essama Omgba	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8,11-13,15-18,21-23,25-27,29,32,35 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8,11-13,15-18,21-23,25-27,29,32,35 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/5/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 4-8, 11-13, 15-17, 25-27, 29, 32, 37 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the “thermal barrier ceramic coating application” step should be positively recited in claims 1 and 8. Claims 1 and 8 recite “wherein the air jet is directed to a side, opposing a surface having the thermal barrier ceramic coating”, however there is no recitation of “coating a surface with the thermal barrier ceramic coating” in the claims. The claims merely recite that cooling holes are drilled into the component after a bond coat application and prior to a thermal barrier ceramic coating application, and the claims fail to positively recite the “thermal barrier ceramic coating application” step.
3. Claims 4, 5, 11-13, 15 and 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4, 5, 11-13, 15 and 21-23 are indefinite in that they all depend from canceled claims and as such their scope cannot be ascertained. They have not been further treated on the merits.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6-8, 16-18, 25-27, 29, 32, 35 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farmer et al. (US Patent 6,663,919) in view of Sangeeta et al. (US Patent 5,796,265).

With regards to claims 1, 2, 6-8, 16-18, and 25-27, Farmer et al. discloses a process for removing thermal barrier ceramic coatings from laser drilled cooling holes of turbine hot section components (col. 3, lines 8-18), the method comprising directing a non-abrasive jet at a non-coated side of the component opposing the surface having the thermal barrier ceramic coating (col. 3, lines 29-31), the jet containing a non-abrasive spherical particulate media (co. 5, lines 60-62 and col. 6, line 7) and emitting the media from a nozzle of the jet at a low pressure wherein the low pressure is insufficient for the media to damage a substrate but the low pressure is sufficient for the media to remove the thermal barrier ceramic coating from the cooling holes (col. 3, lines 31-40), the jet directed at the cooling holes at substantially the same angle as the cooling holes (col. 6, lines 35-37), wherein the jet with the spherical media rounds the metallic edges of the cooling holes (col. 7, lines 11-30) and wherein a bond coat is interposed between the thermal barrier ceramic coating and the substrate (col. 4, lines 62-65). Farmer et al. discloses that various fluids could be used for the jet (col. 5, line 62), but does not

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specifically disclose using an air jet. However Sangeeta et al. discloses a process for removing an aluminide-containing material from a metallic substrate surface (col. 1, lines 11-19 and col. 2, lines 26-28), the method comprising directing an air jet at the aluminide-containing material on the substrate surface of the component, the jet comprising non-abrasive particulate media such as glass beads, the average particle size being less than 500 microns, the air jet being directed at the aluminide-containing material at a pressure less than about 40 psi sufficient to remove the aluminide-containing material but insufficient to damage the substrate surface, see column 5, lines 54-67, column 7, lines 53-67 and column 8, lines 1-4. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an air-jet non-abrasive blasting process as taught by Sangeeta et al. in the process of Farmer et al., in order to remove thermal barrier coatings without damaging the underlying material. Applicant should note that the cooling holes in Farmer et al. are drilled after a bond coat application and prior to thermal barrier ceramic coating application as is conventional in the art, see column 2, lines 19-22 of Farmer et al.

Regarding claims 29, 32 and 35, Applicant should note that such bond coatings are conventional in the art, see for example column 4, lines 65-67 of Farmer et al.

Regarding claims 37-39, Applicant should note that the process of Farmer et al./Sangeeta et al. could be used for “non-degraded” thermal barrier ceramic coatings, meaning those who have not been put to use.

Response to Arguments

6. Applicant's arguments filed December 2, 2009 have been fully considered but they are not persuasive.

In response to Applicant's argument that farmer et al. does not disclose applying a bond coating to a substrate of a gas turbine component, manufacturing cooling holes and then applying a ceramic thermal barrier coating, the examiner respectfully disagrees. Farmer et al. does indeed disclose that such manufacturing process is known in the art, see column 2, lines 19-22.

In response to Applicant's argument that Farmer et al. discloses the use of a very high pressure fluid system, the examiner submits that although Farmer et al. discloses using a water jet at high pressure, Farmer et al. further discloses that various fluids could be used as the carrying jet, see column 5, lines 55-62. And as shown in the above rejections Sangeeta et al. teaches an air jet containing non-abrasive beads to remove coatings from a substrate. It has been held that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicant's argument that Sangeeta et al. does not disclose removing thermal barrier ceramic coatings, the examiner submits that in an obviousness rejection, it is not necessary to find precise teachings in the prior art directed to the specific subject matter claimed because inferences and creative steps that a person of

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ordinary skill in the art would employ can be taken into account. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). If a technique has been used to improve one process, and a person of ordinary skill in the art would recognize that it would improve similar processes in the same way, using the technique is obvious unless its actual application is beyond his or her skills. See *id.* at 417. One of ordinary skill in the art is presumed to have skills apart from what the prior art references especially say. See *In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985). "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 421.

In view of the above remarks, the examiner maintains that a *prima facie* case of obviousness has been established in the instant application.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Essama Omgba/
Primary Examiner, Art Unit 3726

eo
March 27, 2010